

HP StorageWorks

Emulex host bus adapters for Windows Server 2003 and Windows Server x64 Edition release notes

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Emulex host bus adapters for Windows Server 2003 and Windows Server x64 Edition release notes

About this document

These release notes contain information about SCSIPIRT and Storport miniport drivers and firmware, and other supplemental information for the following Emulex host bus adapters (HBAs) for Windows® Server™ 2003 and Windows Server x64 Edition systems: DS-KGPSA-CB, FCA2101, FCA2355, FCA2404, FCA2404DC, FCA2408, A7388A, A7387A, and 1050EX.

This section describes the content reflected in this document, including:

- [Release notes information](#), page 3
- [Intended audience](#), page 3
- [Accessing future product updates](#), page 3

Release notes information

These release notes contain the following major topics:

- [Supported features and requirements](#), page 4
- [Driver parameters supporting multiple array types](#), page 7
- [Using the HP Smart Component](#), page 9
- [Bug fixes for the SCSIPIRT miniport driver](#), page 11
- [Restrictions](#), page 11

Intended audience

This document is intended for customers who purchased Emulex HBAs for Windows Server 2003 and Windows Server for x64 Edition systems.

Additional documentation, including white papers and best practices documents, are available on the HP web site: <http://www.hp.com>.

Accessing future product updates

HP strongly recommends that customers sign up online using the Subscriber's choice web site: <http://www.hp.com/go/e-updates>.

- Subscribing to this service provides you with e-mail updates on the latest product enhancements, newest versions of drivers, and firmware documentation updates as well as instant access to numerous other product resources.
- After signing up, you can quickly locate your products by selecting **Business support** and then **Storage** under Product Category.

Supported features and requirements

Table 1 lists the supported features and requirements.

Table 1 Supported features and requirements

Feature	Requirements
Operating systems	Windows 2000 with SP4 Windows Server 2003 Windows Server 2003 with SP1 Windows Server 2003 x64 Edition
Firmware	DS-KGPSA-CB, FCA2101, FCA2355: 3.92a2 1050EX, A7388A, A7387A, FCA2404, FCA2404DC, FCA2408: 1.91a1
Boot BIOS	x86: 1.70a3, Pair boot code: 5.01a5 Certain HBAs, such as the 1050EX, include Pair boot code. Pair boot code includes x86 Boot BIOS and EFI boot for Itanium™ IA64 systems. This Pair boot code contains x86 Boot BIOS 1.70a3 and EFI boot 3.10a6.
Servers	HP server platforms that meet the voltage and minimum PCI slot requirements listed in Table 2. For detailed server information, refer to: http://h18004.www1.hp.com/products/servers/platforms/storage.html .
Fibre Channel switches	For the latest supported switches, see the <i>HP StorageWorks SAN design reference guide</i> : http://h18006.www1.hp.com/products/storageworks/san/documentation.html .
Microsoft hotfix	If you are using Windows Server 2003 prior to SP1 or after SP1 you need the Microsoft QFE—903081. This hotfix contains updates for Microsoft's <code>storport.sys</code> file. To obtain the QFE, go to the following Microsoft web site: http://support.microsoft.com/kb/903081 .

Table 1 Supported features and requirements

Feature	Requirements
Drivers	
SCSIPOINT miniport: 5-5.20a9	Windows 2000 with SP4, Windows Server 2003, and Windows Server 2003 with SP1
SCSIPOINT miniport: 5-4.82a16	HSG80 systems on Windows 2000 with SP4 and Windows Server 2003
Storport miniport: 5-1.11a0	Windows Server 2003 with Microsoft QFE—903081 and Windows Server 2003 with SP1
Storport miniport: 7-1.11a0	Windows Server 2003 x64 Edition
LPUTILNT utility	1.8a11

Voltage and PCI slot requirements

Table 2 lists the voltage and PCI slot requirements. Refer to your server PCI slot specifications to determine whether your server and the HBA are compatible.

Table 2 Voltage and PCI slot requirements

HBA part number	HBA PCI signaling voltage	PCI slot type
A7388A	3.3 volt, 5 volt	32- or 64-bit 33/66 MHz PCI or 66/100/133 MHz PCI-X universal connector
A7387A	3.3 volt, 5 volt	32- or 64-bit 33/66 MHz PCI or 66/100/133 MHz PCI-X universal connector
FCA2404 part number 305573-B21	3.3 volt, 5 volt	32- or 64-bit 33/66 MHz PCI or 66/100/133 MHz PCI-X universal slot
FCA2404DC part number 323264-B21	3.3 volt	32- or 64-bit 33/66 MHz PCI or 66/100/133 MHz PCI-X universal or 3.3 volt slot
FCA2408 part number 343073-B21	3.3 volt, 5 volt	32- or 64-bit 33/66 MHz PCI or 66/100/133 MHz PCI-X universal connector
FCA2355 part number 308540-B21	3.3 volt, 5 volt tolerant	Universal PCI connector
FCA2101 part number 245299-B21	3.3 volt, 5 volt tolerant	Universal PCI connector
DS-KGPSA-CB part number 176479-B21	3.3 volt, 5 volt tolerant	Universal PCI connector
1050EX part number A7650A	3.3 volt, 12 volt	PCI-Express 4x, 8x, or 16x

Driver parameters supporting multiple array types

With the new HP common set of Windows SCSI/PORT miniport driver parameters, a Windows host can now access EVA, MSA, and XP storage arrays simultaneously. [Table 3](#) lists the supported parameters for configurations in which a Windows host accesses different storage array types simultaneously.

The Storport miniport driver’s registry entry includes only the `NodeTimeout`, `LinkTimeout`, and `QueueTarget` parameters. All other parameters use the Emulex defaults. For more information, see the HP Smart Component documentation.

 **NOTE:** An asterisk (*) indicates the HP-specific Storport miniport driver parameters. Some of the parameters in [Table 3](#) may not be defined for Storport miniport drivers, or may have a different name.

Table 3 Miniport driver parameters

Parameter	HP default multipath setting
QueueDepth	32
ResetTPRLO	2
NodeTimeout*	10
LinkTimeout*	40
HLinkTimeout	5
NumberOfRequests	150
MaximumSGLList	33
Interrupt coalescing uses the following parameters:	Enabled
CrFIntrpt	1
CrFMSCnt	1
CrFRspCnt	8
QueueTarget*	1
EmulexOption	0xBA00
DiscMethod	1
Hot Plug I/O Timeout	30
Topology	2
EnabledDPC	1
ElsRetryCount	6

Table 3 Miniport driver parameters (continued)

Parameter	HP default multipath setting
SimulateDevice	1
ErrRetryMax	0

Note the following about the miniport driver parameters in [Table 3](#):

- The `SimulateDevice` parameter has been replaced by a separate key, `CreateInitiatorLu`. This key is not part of the driver parameter string in newer versions of miniport drivers.
- More parameters are available but remain unchanged from the Emulex defaults. Refer to one of the following Emulex files for information about parameter definitions:
 - For `SCSI`PORT, refer to `readme.txt`.
 - For `Storport`, refer to `Storport driver parameters.doc`.

To obtain these files, open the HP Smart Component driver kit and click **extract** at the prompt.

- [Table 3](#) does not describe single-path and transparent-failover configurations.
- To support multiple tape backup units, you may need to increase the value of the `Maximum SG List` parameter to 65 (decimal).

Use the following Smart Component command to change this parameter:

```
C:\> cp00xxxx.exe /MAX:65 /i
```

The `xxxx` is the numerical value in the Smart Component's name.

- Parameters listed in [Table 3](#) may not show up in the registry if their values are driver defaults.

The HP default for the Emulex `SCSI`PORT miniport driver string is:

```
EnableDPC=1;NodeTimeOut=10;LinkTimeOut=40;HLinkTimeOut=5;ElsRetryCount=6;  
SimulateDevice=1;ResetTPRLO=2;EmulexOption=0xBA00;ErrRetryMax=0;CrfIntrpt=1;  
CrfMSCnt=1;CrfRspCnt=8;QueueTarget=1;
```


The HP default for the Emulex `Storport` miniport driver string is:

```
NodeTimeOut=10;LinkTimeOut=40;QueueTarget=1;
```


Using the HP Smart Component

Using the Smart Component to install drivers

To install HBA drivers, obtain the latest Smart Component for your configuration and copy it to your Windows desktop. Double-click the Smart Component icon, and then click **Install**. The installation completes automatically.

 **NOTE:** If you are performing a driver upgrade, HP recommends that, prior to launching the installation, you verify that the current driver parameter settings match those in [Table 3](#) on page 7. If there are any discrepancies, launch the Smart Component using the command prompt window.

To launch the Smart Component:

1. Open a command prompt window.
2. Use the `CD` command to set the current directory to the folder containing the Smart Component.
3. Enter the following command:

```
cp00xxxx.exe /X
```

The `xxxx` is the numerical value in the Smart Component name. This command installs the new driver and ensures that the driver registry parameter values are Emulex defaults or HP-supported modified values.

For more information about Smart Component installation options, refer to the document `ElxS***Readme.txt`. To obtain a copy of this document, double-click the Smart Component icon and select **Extract** to copy all Smart Component files in the folder you select.

Using the Smart Component version file to obtain HBA information

To obtain HBA information using the Smart Component version file:

1. Locate the version file in the `%systemroot%\StorageWorks\Version` folder. Double-click the executable file to view the information screen.
2. Click **OK** to save this information to a text file.

Smart Component facts

Consider the following when using the HP Smart Component:

- The HP Smart Component kit comprises multiple subcomponents. However, individual subcomponents should not be manually changed. Changing any subcomponent after installation can lead to problems when you run a different version of the HP Smart Component.
- The version file of the HP Smart Component on your system upgrades or downgrades the subcomponents only when you run another version of the HP Smart Component. The version file does not change by upgrading or downgrading a subcomponent, such as a driver, application, or configuration. You may see the following messages:

Message	Occurs when:
The software is installed and up to date.	You install the HP Smart Component and then manually upgrade or downgrade the driver.
The software is installed but is not up to date.	You install a more recent HP Smart Component than the one currently installed.
The software is installed but the installed version is newer than the version you are attempting to install.	You attempt to install an older HP Smart Component when a newer version is present.
The software is installed but is not up to date. A manually upgraded driver may get downgraded as a result of running the Smart Component kit.	<p>You install the HP Smart Component 1.0.0.0, which contains subcomponent driver 3.0.0.0, and you manually update the driver from 3.0.0.0 to 4.0.0.0. The HP Smart Component retains the HP Smart Component 1.0.0.0 with driver 3.0.0.0.</p> <p>If you install a new HP Smart Component kit (such as 2.0.0.0, which contains driver 3.5.0.0), the installation detects the previous HP Smart Component kit version (1.0.0.0) and displays the message.</p>

Known issues

Consider the following known issues with this release of Emulex HBAs for Windows Server 2003 and Windows Server x64 Edition.

Bug fixes for the SCSIPIPORT miniport driver

Using drivers released before 5-5.01a10 may result in intermittent or repeated path faults with loss of LUN connectivity. If this occurs, use either the SCSIPIPORT miniport 5-5.10a10 or 5-5.20a9 driver to correct it.

Windows systems issues

On Windows Server 2003 systems, clients may be disconnected, generating Event ID 11 and Event ID 15 in the application log. This problem may occur under high-stress conditions due to a SCSIPIPORT driver error. Additionally, this problem may cause network timeouts if remote computers are accessing data on the drives that are using the SCSIPIPORT driver on the Windows Server 2003 system.

To correct this problem, install the latest Microsoft QFE from the following Microsoft web site: <http://support.microsoft.com/default.aspx?scid=kb;en-us;895573>.

Restrictions

This section describes HBA restrictions.

Rolling upgrade from Windows Server 2000 to Windows Server 2003

Consider the following before performing an operating system rolling upgrade:

- Install driver 5-5.20a9 before you performing a rolling upgrade.
- If you are booting from a storage area network (SAN), remove all but one path between the server and the storage array. You can do so through zoning or by disconnecting cables. Restore the redundant paths after completing the upgrade.

Upgrading from Windows Server 2000 to Windows Server 2003 slipstreamed with SP1 does not require removing redundant paths from SAN storage.

1050EX restrictions

The 1050EX HBA requires an empty 4x, 8x, or 16x PCI-Express bus slot. You cannot use a PCI-X bus slot.

Storport miniport installation restrictions

When upgrading to the Storport miniport driver, consider the following:

- The Storport miniport driver is supported only on Windows 2003 and later.
- Before installing the Storport miniport driver, you must install the Microsoft QFE-903081 to update the storport.sys driver. Obtain the QFE on the following Microsoft web site: <http://support.microsoft.com/kb/903081>.

- In the same Windows server, you can mix SCSIOPRT and Storport miniport drivers for HBAs from different vendors. However, within that same server, all HBAs from a single vendor must operate exclusively with either all SCSIOPRT miniport drivers or all Storport miniport drivers.
- You cannot upgrade directly from the SCSIOPRT miniport driver 4-8.2a16 to the Storport miniport driver. You must first upgrade from the 5-4.82a16 driver to the 5-5.20a9 driver.
- If you are running Secure Path for Windows, you must upgrade to Secure Path 4.0c SP1 or later for Windows. Storport is not supported with earlier versions of Secure Path.

HBAnyware and LPUTILNT restrictions

Due to release scheduling and qualification inconsistencies, HP is withdrawing support for the HBAnyware utility, previously distributed by HP as the Emulex HBAnyware Fibre Channel Remote Management Application. HP continues to support the standalone version of the LPUTILNT utility.

HP is addressing issues with the Emulex HBAnyware Fibre Channel Remote Management Application, and will support the HBAnyware utility when those issues have been resolved. This release of the HP Smart Component removes the previous version of HBAnyware and installs the LPUTILNT utility.

 **NOTE:** You must uninstall HBAnyware before installing the 5-5.20a9 or the 5-2.22a0 drivers.

Miscellaneous restrictions

Consider the following:

- These Emulex HBAs do not support LUN mapping and LUN masking.
- There are numerous restrictions with server clustering in Windows 2000 and Windows Server 2003. For detailed information about managing clusters in this environment, HP strongly recommends that you go to the following Microsoft web site:
<http://www.microsoft.com/technet/prodtechnol/windowsserver2003/technologies/clustering/storbp.mspx>.